

WHAT IS CLAIMED IS:

1. A display device comprising:
 - a display panel which is equipped with pixels including a light-emitting element;
 - a temperature detection unit which detects an ambient temperature;
 - a storage unit having stored therein a temperature characteristic and an aging characteristic of the light-emitting element;
 - an arithmetic operation unit which calculates a lighting period of each pixel using an output of the temperature detection unit, the temperature characteristic, and a video signal;
 - a count unit which counts a cumulated lighting period of each pixel using an output of the arithmetic operation unit; and
 - a correction unit which corrects a video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period and supplies the corrected video signal to the display panel.
2. A display device according to claim 1,
wherein the arithmetic operation unit calculates an acceleration factor from the output of the temperature detection unit and the temperature characteristic and also calculates a lighting period of each pixel from a multiplication of the video signal and the acceleration factor.
3. A display device according to claim 1,
wherein the temperature detection unit is a light-emitting element.
4. A display device comprising:
 - a display panel which is equipped with pixels including a light-emitting element;
 - a temperature detection unit which detects an ambient temperature;
 - a storage unit having stored therein a temperature characteristic and an aging characteristic of the light-emitting element;
 - an arithmetic operation unit which calculates a lighting period of each pixel using an output of the temperature detection unit, the temperature characteristic, and a video signal;

a count unit which counts a cumulated lighting period of each pixel using an output of the arithmetic operation unit; and

a correction unit which corrects a power supply potential using the aging characteristic and the cumulated lighting period and supplies the corrected power supply potential to the display panel.

5. A display device according to claim 4,

wherein the arithmetic operation unit calculates an acceleration factor from the output of the temperature detection unit and the temperature characteristic and also calculates a lighting period of each pixel from a multiplication of the video signal and the acceleration factor.

10. 6. A display device according to claim 4,

wherein the temperature detection unit is a light-emitting element.

15

7. A drive method for a display device having a display panel equipped with pixels including a light-emitting element, temperature detection unit, storage unit having stored therein a temperature characteristic and an aging characteristic of the light-emitting element, arithmetic operation unit, count unit and correction unit, comprising the steps of:

a detecting ambient temperature by the temperature detection unit;

a calculating a lighting period of each pixel using an output of the temperature detection unit, the temperature characteristic, and a video signal by the arithmetic operation unit;

20

a counting a cumulated lighting period of each pixel using an output of the arithmetic operation unit by the count unit;

a correcting a video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period by the correction unit; and

a displaying an image using the corrected video signal by the display panel.

25

30. 8. A drive method for a display device according to claim 7,

wherein the arithmetic operation unit calculates an acceleration factor from the output of the temperature detection unit and the temperature characteristic and also calculates a lighting period of each pixel from a multiplication of the video signal and the acceleration factor.

9. A drive method for a display device according to claim 7,
wherein the temperature detection unit is a light-emitting element.

5 10. A drive method for a display device having a display panel equipped
with pixels including a light-emitting element, temperature detection unit, storage unit
having stored therein a temperature characteristic and an aging characteristic of the
light-emitting element, arithmetic operation unit, count unit, and correction unit,
comprising the steps of:

10 detecting ambient temperature by the temperature detection unit;
calculating a lighting period of each pixel using an output of the temperature
detection unit, the temperature characteristic, and a video signal by the arithmetic
operation unit;
counting a cumulated lighting period of each pixel using an output of the
15 arithmetic operation unit by the count unit;
correcting a power supply potential using the aging characteristic and the
cumulated lighting period by the correction unit; and
displaying an image using the corrected power supply potential by the display
panel.

20 11. A drive method for a display device according to claim 10,
wherein the arithmetic operation unit calculates an acceleration factor from
the output of the temperature detection unit and the temperature characteristic and also
calculates a lighting period of each pixel from a multiplication of the video signal and
25 the acceleration factor.

12. A drive method for a display device according to claim 10,
wherein the temperature detection unit is a light-emitting element.

30 13. A display device comprising:
a display panel which is equipped with pixels including a light-emitting
element;
a temperature detection unit which detects an ambient temperature;
a storage unit having stored therein a temperature characteristic and an aging
35 characteristic of the light-emitting element;

a count unit which counts a cumulated lighting period of each pixel; and
a correction unit which corrects a video signal to be inputted to each pixel
using the aging characteristic and the cumulated lighting period and supplies the
corrected video signal to the display panel.

5

14. A display device according to claim 13,
wherein the temperature detection unit is a light-emitting element.

10 15. A display device comprising:
a display panel which is equipped with pixels including a light-emitting
element;

a temperature detection unit which detects an ambient temperature;
a storage unit having stored therein a temperature characteristic and an aging
characteristic of the light-emitting element;

15 a count unit which counts a cumulated lighting period of each pixel; and
a correction unit which corrects a power supply potential using the aging
characteristic and the cumulated lighting period and supplies the corrected power
supply potential to the display panel.

20 16. A display device according to claim 15,
wherein the temperature detection unit is a light-emitting element.

25 17. A drive method for a display device having a display panel equipped
with pixels including a light-emitting element, temperature detection unit, storage unit
having stored therein a temperature characteristic and an aging characteristic of the
light-emitting element, count unit and correction unit, comprising the steps of:

30 detecting ambient temperature by the temperature detection unit;
counting a cumulated lighting period of each pixel by the count unit;
correcting a video signal to be inputted to each pixel using the aging
characteristic and the cumulated lighting period by the correction unit; and
displaying an image using the corrected video signal by the display panel.

18. A drive method for a display device according to claim 17,
wherein the temperature detection unit is a light-emitting element.

35

19. A drive method for a display device having a display panel equipped with pixels including a light-emitting element, temperature detection unit, storage unit having stored therein a temperature characteristic and an aging characteristic of the light-emitting element, arithmetic operation unit, count unit, and correction unit,
5 comprising the steps of:
- detecting ambient temperature by the temperature detection unit;
 - counting a cumulated lighting period of each pixel by the count unit;
 - correcting a power supply potential using the aging characteristic and the cumulated lighting period by the correction unit; and
- 10 displaying an image using the corrected power supply potential by the display panel.

20. A drive method for a display device according to claim 19,
wherein the temperature detection unit is a light-emitting element.

15